## REMARKS

### *Objections to the Specification*

The Examiner states this application does not contain an abstract of the disclosure. The PAIR system indicates an abstract was received on January 5, 2001. A copy of the abstract, retrieved from the PAIR system, is enclosed for your convenience.

The Examiner objects to the specification, citing as an "informality" the following phrase: "equation 6, 52" on page 6, line 12, suggesting it be amended to read "---Equation 6---". The "52" in the objected to phrase refers to step 52 on the flow chart of Figure 4. The flow chart of Figure 4 is introduced at the bottom of page 5 of the specification. References to other steps of the flow chart are made on page 6 lines 6-7 ("...as in Equation 4, 50"), and page 7 line 3 ("... to solve Equation 7 is a least squares solution, 54"). It is respectfully submitted that these phrases, including the one objected to, are in proper form.

### *Claim Rejections - 35 USC §102, §103*

All claims (claims 1-20) stand rejected. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bernd Steiner et al. (European Transactions on Telecommunications and related technology) (hereinafter "Steiner"); claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steiner (same as above). These rejections are respectfully traversed.

The approach claimed in the present application is completely different than that disclosed by Steiner. Steiner discloses a channel estimator using a single cyclic

correlator. The single cyclic correlator multiplies a first column of a midamble code matrix, M, with a received vector, e. The cyclic correlator takes in P elements at a time and shifts them through for 2P-1 clock periods to perform the multiplication. P is a period of the midamble sequence.

The approach claimed in the present application is completely different. In the present application, a matrix of N midamble sequences is constricted using N identical right circulant matrix blocks. Using the received vector and one of these blocks, the channel can be estimated. Since the present invention uses one out of N identical right circular matrix blocks, it is different than the column used in the cyclic correlator described in Steiner.

This configuration of the present invention is advantageous, as described in the present application on page 8 lines 4-6, where the estimation can be performed by a single cyclic correlator having a dimension of the impulse response, such as 57 chips, or by a discrete Fourier transform solution. Accordingly, the claims are distinguishable over Steiner.
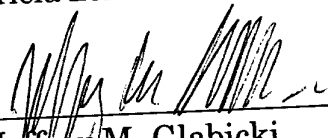
### Conclusion

For the above reasons provided above, it is respectfully submitted that pending claims 1-20 are in condition for allowance. Accordingly, reconsideration and allowance of pending claims 1-20 are respectfully requested.

If the Examiner does not believe that the claims are in condition for allowance, the Examiner is respectfully requested to contact the undersigned at 215-568-6400.

Respectfully submitted,

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Enclosure